

Montana Board of Oil and Gas Conservation

Environmental Assessment

Operator: Oasis Petroleum North America LLC
Well Name/Number: Hebron POW 2759 42-3
Location: SE SW Section 3 T27N R59E
County: Roosevelt, MT; Field (or Wildcat) Wildcat

Air Quality

(possible concerns)

Long drilling time: No, 20-30 days drilling time.

Unusually deep drilling (high horsepower rig): Triple derrick drilling rig to drill vertical Nisku Formation test, 10,700' MD/10,700' TVD.

Possible H₂S gas production: Yes, slight H₂S possible, from Mississippian Formations.

In/near Class I air quality area: No Class I air quality area nearby.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☒ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: If there are existing pipeline for natural gas in the area then associated gas must be tied into system or if no gathering system nearby associated gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)

Salt/oil based mud: Yes to oil based invert drilling fluids for intermediate casing hole. Surface casing hole will be drilled with freshwater and freshwater mud system, rule 36.22.1001.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, closest drainage is Deer Creek 3/10 of a mile to the east and Horse Tied Creek 1/5 of a mile to the north.

Water well contamination: No, closest water well is about 7/10 of a mile to the northeast, 9/10 of a mile to the northwest, and 7/10 of a mile to the south from this location. Depths of these wells range from 77' to 320'. This proposed oil well will be drilled with freshwater and freshwater mud to 2,140' and steel surface casing will be run and cemented to surface to protect groundwater.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage: No, Class I stream drainages.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 2,140' + of 13.5" surface casing hole will be drilled with freshwater, 9 5/8" steel casing will be run to 2,140' and cemented back to surface, to protect freshwater zones in adjacent water wells. Surface casing will cover the Fox Hills aquifer, rule 36.22.1001. Adequate, surface casing and operational BOP equipment should prevent any problems, rule 36.22.1014.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No stream crossings anticipated.

High erosion potential: Yes this location because of the moderate cut and fill has a high erosion potential, location will require a moderate cut of up to 20.3' and moderate fill of up to 16.0', required.

Loss of soil productivity: No, location to be restored after drilling, if nonproductive. If productive unused portion of the drillsite will be reclaimed.

Unusually large wellsite: No, a medium sized well location, 320'X430'.

Damage to improvements: Slight surface use appears to be grazing grassland.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over an existing county road and existing road 2061. New access road will be built into this location, about 106' into this location from the existing well access road. Oil based invert drilling fluids will be recycled. Completion fluids will hauled to a commercial Class II disposal. Cuttings and solids will be buried/solidified on site in the lined reserve pit. The pit will be allowed to dry and the pit backfilled. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Nearest residences are about 1 mile to the northwest. The Town of Bainville, MT is about 6.6 miles to the northwest from this location.

Possibility of H2S: Yes, slight, from Mississippian Formations.

Size of rig/length of drilling time: Triple drilling rig 20 to 30 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems (5,000 psig annular and double ram pipe and blinds), rule 36.22.1014.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Species identified as threatened or endangered are the Pallid Sturgeon, Interior Lease Tern, Whooping Crane and Piping Plover. Candidate species is the Sprague's Pipit. NH tracker website indicates fourteen (14) species of concern. They are the Great Blue Heron, Piping Plover, Bobolink, Whooping Crane, Least Tern, Northern Redbelly Dace, Blue Sucker, Iowa Darter, Shortnose Gar, Sturgeon Chub, Sicklefin Chub, Paddle Fish, Sager and Pallid Sturgeon, . NH Tracker website lists four (4) potential species of concern and it is the Hayden's Shrew, Brook Stickleback,

Brassy Minnow and Burbot.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Private surface grassland. No live water or wetlands near to this wellsite. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: Private surface grassland. There may be possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: Wildcat well. No concerns

Remarks or Special Concerns for this site

An exploratory single vertical Nisku Formation test, 10,700'MD/10,700'TVD.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected, some short term impacts will occur, but can be mitigated.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/John Gizicki

(title:) Compliance Specialist

Date: April 29, 2014

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Roosevelt County water wells
(subject discussed)
April 29, 2014
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA
COUNTIES, Roosevelt County, Montana
(subject discussed)
February 6, 2013

Montana Natural Heritage Program Website
(Name and Agency)
Heritage State Rank= S1, S2, S3, Location T27N R59E
(subject discussed)
April 29, 2014
(date)

Montana Cadastral Website
(Name and Agency)
Ownership and surface use Location: Section 3 T27N R59E
(subject discussed)
April 29, 2014
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection: _____